

Cell corpse assays

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 An abbreviated version of this protocol was published in eLIFE in Jul 2015

Transdifferentiation mediated tumor suppression by the endoplasmic reticulum stress sensor IRE-1 in *C. elegans*

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Detailed protocol

Staining of apoptotic cells in the *C. elegans* gonad using the fluorescent dye SYTO12

1. Wash plates with age-synchronized worms with sterile M9.
 2. Transfer the liquid with the worms into an Eppendorf tube.
 3. Allow the worms to settle at the bottom of the tube. Remove M9, leaving ~500 microliters in the tube.
 4. To this volume, add 1 microliter of the stock solution of SYTO® 12 green fluorescent nucleic acid stain (S7574, Molecular Probes). Mix lightly.
 5. Wrap the test tubes in aluminium foil (or use dark tubes) and shake for 4-5 hours at room temperature, protected from light.
 6. Spin-down and remove top fluid without harming the worm sediment
 7. Transfer the worms from the bottom of the test tube to a plate seeded with OP50 E. Coli for recovery for 30-40 minutes. Keep plates in the dark.
 8. Prepare slides spotted with 2% agar + 1mM levamisole.
 9. Place the worms on the slides, place cover slip and score for corpse staining within the gonad using a green fluorescence filter. X20 magnification is recommended. Apoptotic cells should be stained by SYTO12, localized near the bend of the gonad and appear refractile by Nomarski optics.
- * As a negative control, use *ced-3/ced-4* apoptosis mutants, in which no apoptotic corpses should be detected.
- * Age synchronization is important as each day has its own typical number of corpses in the gonad.
- * The SYTO® 12 green fluorescent nucleic acid stain should be kept from light.
- * Prepare one slide at a time and score immediately.
- * This protocol is based on T L Gumienny 1, E Lambie, E Hartweg, H R Horvitz, M O Hengartner, "Genetic control of programmed cell death in the *Caenorhabditis elegans* hermaphrodite germline", *Development*, 1999, 126(5):1011-22.

How to cite: (Readers should cite both the Bio-protocol preprint and the original research article where this protocol was used)

1. Levi Ferber, M. and Henis-Korenblit, S. (2021). Cell corpse assays. Bio-protocol Preprint. bio-protocol.org/prep1295.
2. Levi-Ferber, M., Gian, H., Dudkevich, R. and Henis-Korenblit, S.(2015). Transdifferentiation mediated tumor suppression by the endoplasmic reticulum stress sensor IRE-1 in *C. elegans*. eLIFE. DOI: [10.7554/eLife.08005](https://doi.org/10.7554/eLife.08005)

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